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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/578,502

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EXAMINER

BATISTA, MARCOS

ART UNIT

PAPER NUMBER

4134

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/578,502	Applicant(s) FRANCALANCI ET AL.	
	Examiner MARCOS BATISTA	Art Unit 4134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-20 and 25-28 is/are rejected.
- 7) ☒ Claim(s) 21-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/05/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim 28 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 28 defines a computer program product embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium

and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized” – Guidelines Annex IV). That is, the scope of the presently claimed a computer program product can range from paper on which the program is written, to a program simply contemplated and memorized by a person.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 15-20 and 25-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Romoli et al. (WO 02/35872 A1).

Consider claim 15, Romoli discloses a method for planning a telecommunication network for radio apparatuses including a plurality of cells distributed over a geographical area, each of which comprises a set of elementary pixels adapted to receive a radio signal irradiated by a fixed radio base station, comprising (**see col. 1 lines 4-7**): determining for each cell a service area comprising the location of the pixels of the cell in which the network, on the basis of a pre-set limit value (n_{lim}) of a cell load factor (n), is able to provide predetermined services to the mobile apparatuses located therein(**see col. 12 lines 20-27 and col. 13 lines 15-18**): identifying the pixels

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belonging to the service area pertaining to a pre-set cell according to a criterion for selection in succession based on the values of a sorting function ($R_{m,n}$) which is a function of at least the quantity of traffic ($T_{m,n}$) pertaining to the pixel being examined (see col. 12 lines 18-31 and col. 13 lines 1-14); and computing the service area as a set of the pixels of the cell that are in succession selected so that the sum of the contributions due to each pixel does not exceed the preset limit value (n_{lim}) of the cell load factor (n) (see col. 12 lines 18-26).

Consider claim 16, Romoli discloses wherein said sorting function is a function ($R_{m,n}$) of the value of electromagnetic attenuation ($a_{m,n}$) between the fixed radio base station of the pre-set cell and the pixel being examined, and of the quantity of traffic ($T_{m,n}$) pertaining to the pixel being examined (see col. 12 lines 18-31 and col. 13 lines 1-14).

Consider claim 17, Romoli discloses further comprising computing macro-diversity areas in which, for each service area previously calculated, a verification is made as to whether the pixels outside said area, but in which the signal irradiated by the fixed radio base station is received with a power exceeding a predetermined threshold can be served by radio base stations of adjacent cells (see col. 16 lines 32-33 and col. 17 lines 1-8).

Consider claim 18, Romoli discloses further comprising determining the areas in unavailability or outage conditions, by considering pixels belonging to the service area according to a criterion for selection in succession determined by said sorting function ($R_{m,n}$) (see col. 11 lines 17-32).

Consider claim 19, Romoli discloses wherein the pixels belonging to the service areas are selected starting from the location of the pixels in which the signal irradiated by the fixed radio base station is received by a mobile apparatus with a power exceeding a predetermined threshold in such a way that it can be recognized and decoded (see col. 8 lines 12-17 and 23-27).

Consider claim 20, Romoli discloses wherein the information about traffic distribution over the territory is computed starting from a plurality of predetermined values of traffic offered for each service per pixel ($T_{m,n}$) according to a relationship which, for each pixel, assigns a corresponding value of equivalent traffic ($T_{m,n}$) as a function of variables that are representative of the characteristics of the radio connection (see col. 9 lines 30-32 and col. 17 lines 23-28).

Consider claim 25, Romoli discloses wherein the load factor (n) of a cell is defined as the ratio between a predetermined acceptable load of the cell and the maximum load in correspondence with which instability arises, according to the relationship

$$\eta = \sum_{i=1}^S n_i \cdot SAF_i \cdot (1 + f_i) \cdot SNR_i$$

where:

S is the total number of services;

n_i is the maximum number of users simultaneously active in the cell for the i^{th} service;

SAF_i is the service activity factor of the i^{th} service;

f_i is the ratio between intracell interference and intercell interference; and

SNR_i is the signal/noise ratio for the i^{th} service

(see col. 11 lines 33-34 and col. 12 lines 1-17).

Consider claim 26, Romoli discloses a computing system for planning a telecommunication network for radio apparatuses, programmed to implement a method as claimed in any one of claims 15-25 (see fig. 2, col. 5 lines 24-34 and col. 6 lines 1-16).

Consider claim 27, Romoli discloses a radio network plan using the method as described in any one of claims 15-25 (see col. 1 lines 4-7).

Consider claim 28, this is a software claim corresponding to method claim 15. Therefore, it has been analyzed and rejected based upon the method claim 15 above.

Allowable Subject Matter

4. Claims 21-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Marcos Batista, whose telephone number is (571) 270-5209. The Examiner can normally be reached on Monday-Thursday from 8:00am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Lun-Yi Lao can be reached at (571) 272-7671. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Marcos Batista
/M. B./
03/31/2008

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Supervisory Patent Examiner, Art Unit 4134